California Coastal Chinook ESU

Hatchery Program Assessment

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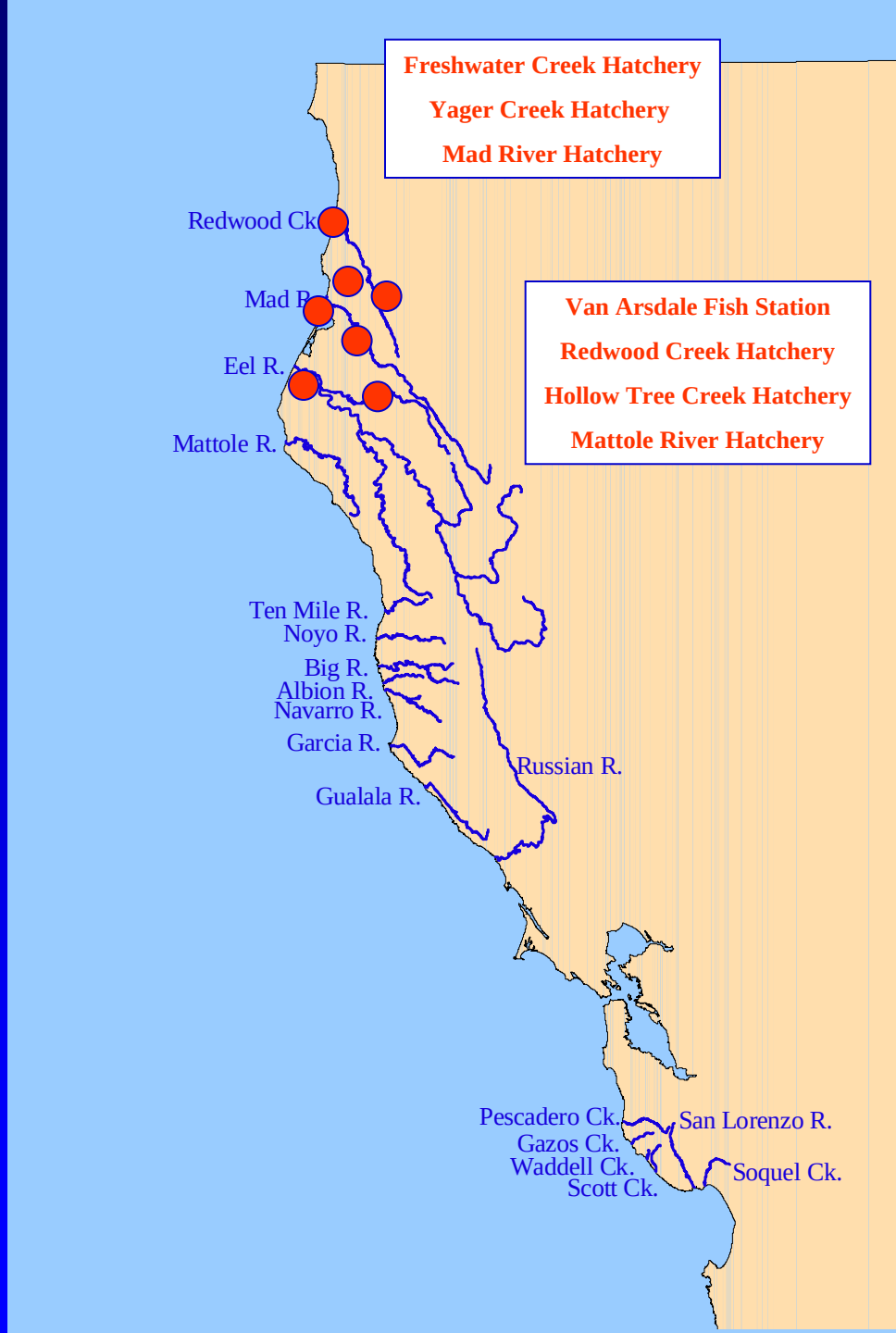
California Coastal Chinook ESU

- **Included in the ESU**
  - Freshwater Creek Hatchery program, Humboldt Fish Action Council
  - Redwood Creek Hatchery program, Eel River Restoration Project
  - Yager Creek Hatchery program, Pacific Lumber Co. (PALCO)
  - Hollow Tree Creek Hatchery program, Salmon Restoration Association
  - Mattole River Hatchery program, Mattole Salmon Group
  - Van Arsdale Fish Station egg-take program, California Department of Fish & Game
  - Mad River Hatchery, California Department of Fish & Game
  - And other natural populations with no hatchery programs

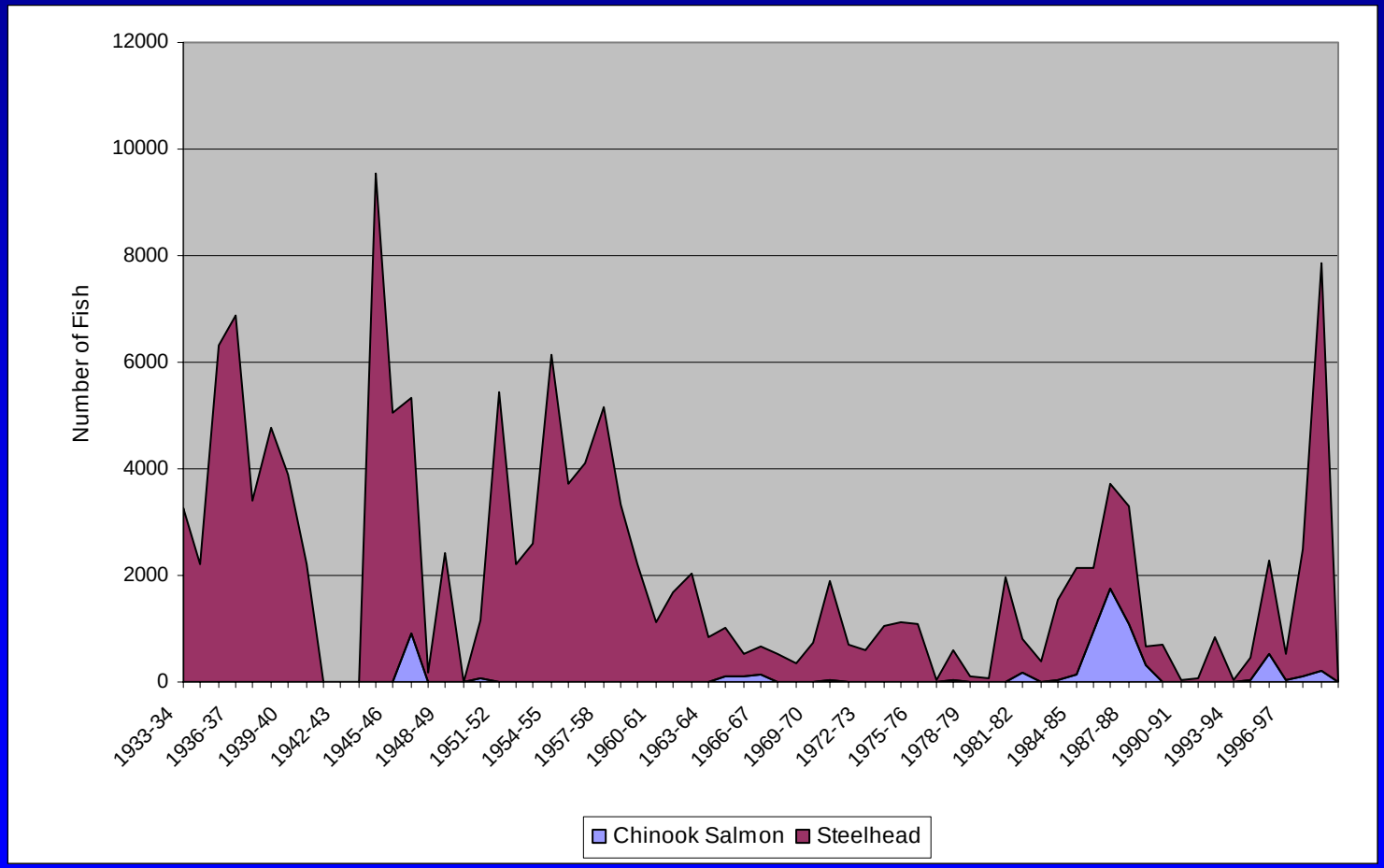
California Coastal Chinook ESU programs



California Coastal Chinook ESU

Population area (hatchery stock)	Isolated or integrated	Program type	Purpose	Production goal	Year initiated
Freshwater Creek	Integrated	Smolt	**Restoration**	58,000	1969
Yager Creek	Integrated	Smolt	**Restoration**	65,000	1976
Redwood Creek	Integrated	Smolt	**Restoration**	80,000	1983
Hollow Tree Creek	Integrated	Smolt	**Restoration**	185,000	1979
Mattole River	Integrated	All	**Restoration**	6,000	1980
Eel River (Van Arsdale F.S.)	Integrated	Smolt	**Augmentation**	Variable	1970s
Mad River	Integrated	Smolt/ Yearling	**Augmentation**	5,000,000	1970

Van Arsdale Fisheries Station Annual Fish Counts 1933-1999



Viable Salmon Populations

Abundance
Productivity
Spatial Structure
Diversity

Effect on Abundance

- There has been no evident benefit to natural abundance from the cooperative programs, with the possible exception of Freshwater Creek Hatchery and the Mattole Salmon Group rescue and rearing activities.
- There has been a recent positive trend in hatchery and natural returns to Freshwater Creek.
- Abundance data is absent or insufficient for natural populations in the ESU.
- The Mattole Salmon Group rescues stranded fish and releases them when Mattole River flows return. These actions may sustain the population for future spawning.

Effect on Productivity

- Hatchery program contributions to natural productivity have not been assessed. While there may be some variance in population numbers over the years, there has been little response in productivity overall.

Effect on Spatial Structure

- Spatial distribution has not expanded for any of the natural populations.

Effect on Diversity

- All cooperative programs utilize wild fish for broodstock, and distinguish their own production with an adipose clip.
- Most programs do not utilize hatchery fish for broodstock.

Effect of Artificial Propagation on VSP Attributes California Coastal Chinook

Viability Criteria	BRT VSP Risk Score	Decreases Risk	Neutral or Uncertain	Increases Risk
Abundance	3.9	√		
Productivity	3.3		√	
Spatial Structure	3.2		√	
Diversity	3.1		√	

Recommendation: No Change to BRT's Finding

What is the biological status of the ESU in total (including hatchery stocks/populations, mixed populations, and natural populations)?

CC Chinook	Biological Status for the ESU in-total		
	"in danger of extinction throughout all or a significant portion of its range"	"likely to become endangered within the foreseeable future throughout all or a significant portion of its range"	Neither "in danger of extinction…" or "likely to become endangered…"
BRT's findings for the ESU natural components	24%	67%	9%